

## **LAADS Web Exercise**

This is a brief exercise to help you become familiar with LAADS Web, a portal for searching and ordering MODIS atmosphere data. Go through this exercise to learn the features of the LAADS Web site.

Depending on which case study you would like to work on later this week you should select one of the following sets of files to download using the instructions on the ftp section of the site or from the browse imagery section.

### **Primary Events for This Training**

Air Quality Incident

June 29, 2012

Julian Date 181

(All states)

Terra Level 2 1600 UTC

Aqua Level 2 1740 UTC

Air Quality Incident July 4, 2012

Julian Date 186

(Southern States)

Terra Level 2 1620 UTC\*

Aqua Level 2 1800 UTC

Air Quality Incident July 13, 2012

Julian Date 195

(Northern States)

Terra Level 2 1610 UTC

Aqua Level 2 1755 UTC

### **Secondary Events for This Training**

Air Quality Incident July 6, 2012

Julian Date 188

(Southern States)

Terra Level 2 1610 UTC

Aqua Level 2 1745 1750 UTC

Air Quality Incident July 1, 2012

Julian Date 183

(Southern States)

Terra Level 2 1730 UTC

Air Quality Incident July 2, 2012

Julian Date 184

(Southern States)  
Terra Level 2 UTC  
Aqua Level 2 1810 UTC

1. Go to the LAADS Web page: <https://ladsweb.nascom.nasa.gov/>

### **Part I: Visual Search for Individual Files**

2. Find and order or download Terra and Aqua files for one of the dates listed above

- a. Click on the *images* tab near the top of the page link and click on *Granule Browser*.

This tool only allows you to search for granules for one day at a time but provides you with greater ability to browse the products to find specific criteria before ordering.

- b. Enter the date.
  - i. Under collection, select “51 – MODIS Collection 5.1.”
  - ii. Under parameter, choose “Aerosol Optical”
  - iii. Hit update
  - iv. In the map, click and drag the yellow square over your area of interest. You can also enter your coordinates manually
- c. Use the buttons to switch between Terra and Aqua
- d. Click on “get granule images.” Select a granule of interest to you and click on the image. You can click on the file name at the top to download the file.
- e. Click on “view side by side parameter comparison” and select the parameter you would like to compare.

### **Part II: Direct FTP File Downloads**

Make sure you save the files in a known location. It is best to make a directory in the C:/Cygwin/usr/local directory to save your files.

3. Via FTP, directly download the Terra files for Case A above and all of the Terra and Aqua aerosol product files for one of the cases listed earlier
  - a. Go back to the *DATA* link and then *FTP* site.

- b. Find the link for *ALLDATA* → 51, then go to the directory with the name of the Level 2 file type you want (i.e. MYDO4\_L2), then find your file by its date.
- c. NOTE: if you are in the Terra directory for the correct day, you can substitute MYD into the URL to quickly access the Aqua files. You can also move quickly into the level 1B directory MOD021KM in the URL instead of the directory containing the aerosol file type in order to go to the directory you need.
- d. Almost all Level 2 products are online and available for immediate download. Some Level 1B data must be ordered.

### Part III: Batch Searching

#### 4. Batch Searching

- a. From the LAADS Web main page, select the *DATA* link, and then *Search*.

#### b. Data Controls

- i. Product Selection: make sure you always make the following selections:
  - 1. Satellite/Instrument: click in the circle to select either Terra MODIS or Aqua MODIS. (For this exercise, you can select either.)
  - 2. Group: Select Level 1, Level 2, or Level 3 data. If you change instrument selection, you will have to select this again. *Select Level 2*.
  - 3. Products: After selecting the product group, you must click on the product name. *Select the Level 2 Aerosol Product. Make a note of the product name at the beginning of the selection line.*
- ii. Temporal Selection:
  - 1. Temporal Type: Date and time range requires date and time in the default format shown in the boxes. *Select a 10-day range around your date of interest.*

2. Collection Selection: Select “51 – MODIS Collection 5.1 – Selected Atmos and Land Products.” If this does not return any data, then switch to “5 Coll5 AQUA/Terra Forward and Reprocessing”
  3. Spatial Selection: Select Latitude/Longitude. Either click and drag on the map, enter your coordinates, or use one of the “Predefined Regions.” *Select an area a few degrees around your area of interest.*
  4. Coverage Options: Select “Day” only
5. Examine Results
- a. Click Search
    - i. Clicking on a file name will initiate a download of the data file
    - ii. For each file, there should be two browse images available. Explore some of the browse images. You can use these to help determine which files to download.
  - b. Add one or may files to the shopping cart for download.
6. Refine and search for additional features to explore:  
Click refine search. See if you can save and load your search.
- a. Metadata Selection
    - i. You can use these selection parameters to limit results to data that has a higher percentage of data returned.
    - ii. In the “SuccessfulRetrievalPct\_Land” select a start number somewhere between 20 and 80 and leave the end number as 100. Select “yes” next to Filter
    - iii. Click search.
    - iv. Compare the number of retrievals obtained this way to your earlier searches. If you obtain no results lower the starting percentage.
  - b. Seasonal Searches

- i. One very powerful option on LAADSWeb is the ability to create a “seasonal search” encompassing many years of data with only a single search. Select “Subset of Days in Date and Time Range” from the “Temporal Type” menu.
  - ii. You will see “start month” and “start day” and “end month” and “end day” selection menus. If you wanted to do a seasonal search for all dates from the first week of September over the years 2006 - 2009 you would use the start and end month and day boxes to specify Sept 1 – Sept 7 to select your “season” and the “Start Date and Time and End Date and Time” boxes to enter 09/01/2006 00:00:00 and 09/07/2009 23:59:59 to select your range of years. Try this now with any selected week of your choosing.
- c. Time Window Searches
  - i. Select “refine your search”
  - ii. In the “Temporal Selection” box select “Subset of Hours in Date and Time Range” and use the “Start Hour” and “End Hour” boxes to limit the search to 18-19 hours. This gives you results from a two-hour window.

#### **Part IV: Search for File Names**

*If you have time, or for later exploration*

Go back to the beginning search for Level 1 products page and click the “search for file names” link at the top of the page. Enter the file name for your search up through the time field. Search a second time using this function but instead of the complete time field just enter the hour and wild card symbol i.e. 19\*